

# **Effect of solar cosmic rays on the optical aerosol parameters**

I.Mironova

Institute of Physics, St.Petersburg State University  
(mironova@geo.phys.spbu.ru / +7-812-428-7240)

Variations of the aerosol backscatter coefficients from lidar observations are investigated with respect to volcanic, solar and geomagnetic activity forcing. It is established that the main source of the variations is the volcanic activity. However flare and geomagnetic activities also contribute to aerosol response.

The thickness of aerosol layer at the height near 10 km is enlarged after injection of the high-energy protons. The backscatter coefficients are augmented in comparison with the day without injection. During several days the backscatter coefficients return to the original values. Solar proton effects were not observed in absence of aerosol layer.